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Hydroxyethyl starch
albumin and hydroxyethyl starch modulate oxidative inflammatory injury to vascular endothelium (LI) [Lang et al.], 51
endothelial glycocalyx as an additional barrier determining extravasation of 6% hydroxyethyl starch or 5% albumin solutions in coronary vascular bed (LI) [Rehm et al.], 1211
Hyperalgesia
prediction of postoperative pain by preoperative nociceptive responses to heat stimulation (PRA) [Werner et al.], 115
Hyperglycemia
intraoperative hyperglycemia during infant cardiac surgery is not associated with adverse neurodevelopmental outcomes at 1, 4, and 8 years (CI) [de Ferranti et al.], 1345
Hyperthermia
cerebral oxygen extraction and autoregulation during extracorporeal whole body hyperthermia in humans (CI) [Cremer et al.], 1101
malignant (*See* Malignant hyperthermia)
Hypotension
epidural anesthesia, hypotension, and changes in intravascular volume (CI) [Holte et al.], 281
epidural granuloma and intracranial hypotension resulting from cervical epidural steroid injection (CR) [Dietrich et al.], 445
mechanisms of hypotension and bradycardia during regional anesthesia in the sitting position (CO) [Liguori et al.], 191
Hypothermia
alpha-stat induced alkalosis: cause of neuronal apoptosis after deep hypothermic perfusion (CO) [Miyamoto et al.], 455
γ-aminobutyric acid type A receptor β2 subunit mediates the hypothermic effect of etomidate in mice (LI) [Cirone et al.], 1438
effects of a circulating-water garment and forced-air warming on body heat content and core temperature (CI) [Taguchi et al.], 1058
hypothermic preconditioning increases survival of Purkinje neurons in rat cerebellar slices after an *in vitro* simulated ischemia (LI) [Yuan et al.], 331
nefopam selectively reduces shivering threshold in unanesthetized patients (CI) [Alfonsi et al.], 37
spinal cord temperature (CO) [Harrison et al.], 198
Hypoxemia
recurrent hypoxemia in young children with obstructive sleep apnea is associated with reduced opioid requirement for analgesia (CI) [Brown et al.], 806

I

Imaging and radiology
comparative diagnostic performances of auscultation, chest radiography, and lung ultrasonography in acute respiratory distress syndrome (CI) [Lichtenstein et al.], 9
a concerning direction (CO) [Gray et al.], 1325
dissociable brain activation responses to 5-Hz electrical pain stimulation (PRA) [Alkire et al.], 939
effects of subanesthetic ketamine on regional cerebral glucose metabolism in humans (CI) [Långsjö et al.], 1065
investigation to dissociate the analgesia and anesthetic properties of ketamine using functional magnetic resonance imaging (CI) [Rogers et al.], 292
Morse, Collard, *TEE: An Interactive Board Review on CD-ROM* (EM) [Rehfeldt], 202
near-miss accident during magnetic resonance imaging by a "flying sevoflurane vaporizer" due to ferromagnetism undetectable by handheld magnet (CO) [Zimmer et al.], 1329
ultrasound imaging of brachial plexus (CO) [Sandhu], 1325
unilateral diagnostic infiltration of lumbar L3 nerve root resulting in an inadvertent discogram: importance of fluoroscopic guidance in interventional pain therapy (CR) [Haspeslagh et al.], 1019
view from below: transtracheal miniendoscopic visualization of trachea and glottis (LR) [Raphael et al.], 1026
Immunohistochemistry
differential activation of mitogen-activated protein kinases in ischemic and anesthetic preconditioning (LI) [da Silva et al.], 59
Immunology and inflammation
acute hyperinsulinemia restrains endotoxin-induced systemic inflammatory response by (LI) [Brix-Christensen et al.], 861
albumin and hydroxyethyl starch modulate oxidative inflammatory injury to vascular endothelium (LI) [Lang et al.], 51
altered cell-mediated immunity and increased postoperative infection rate in long-term alcoholic patients (CI) [Spies et al.], 1088
effect of hypertonic saline infusion on postoperative cellular immune function (CI) [Kølson-Peterson et al.], 1108
mobilization of opioid-containing polymorphonuclear cells by hematopoietic growth factors and influence on inflammatory pain (PRA) [Brack et al.], 149
upregulation of spinal cyclooxygenase-2 in rats after surgical incision (LI) [Kroin et al.], 364
Indocyanine green
measurement of cardiac output with indocyanine green transcutaneous fluorescence dilution technique (LI) [Maarek et al.], 1476
safety as a vital stain (CO) [Jackson], 1330
Infants. *See* **Pediatric patients**
Infection
altered cell-mediated immunity and increased postoperative infection rate in long-term alcoholic patients (CI) [Spies et al.], 1088
development of osteomyelitis after direct laryngoscopy (CR) [Tucke et al.], 1021
early onset pneumonia: risk factors and consequences in head trauma patients (CI) [Bronchard et al.], 190234
modified protective suits for anesthesiologists performing tracheal intubation for severe acute respiratory syndrome patients in Taiwan (CO) [Chang et al.], 1630
outbreak of severe acute respiratory syndrome n Singapore and modifications in anesthesia service (CO) [Liu et al.], 1629
prevention and management of intrathecal drug delivery and spinal cord stimulation system infections (SA) [Follett et al.], 1582
Infection control
antichemical protective gear prolongs time to successful airway management (CI) [Flaishon et al.], 260
endotracheal tubes coated with antiseptics decrease bacterial colonization of ventilator circuits, lungs, and endotracheal tube (LI) [Berra et al.], 1446
infection control measures for operative procedures in severe acute respiratory syndrome–related patients (CI) [Chee et al.], 1394
Laryngeal Mask Airway insertion by anesthetists and nonanesthetists wearing unconventional protective gear (CI) [Flaishon et al.], 267
Inflammation. *See* **Immunology and inflammation**
Inhalation anesthesia and anesthetics
adenosine and a nitric oxide donor enhances cardioprotection by preconditioning with isoflurane through mitochondrial adenosine triphosphate–sensitive K^+ channel–dependent and –independent mechanisms [Wakeno-Takahashi et al.], 515
alterations in rat brain proteins after desflurane anesthesia (LI) [Fütterer et al.], 302
attenuation of mitochondrial respiration by sevoflurane in isolated cardiac mitochondria is mediated in part by reactive oxygen species [Riess et al.], 498
chronobiology and anesthesia (RA) [Chassard et al.], 413
contribution of reactive oxygen species to isoflurane-induced sensitization of cardiac sarcolemmal adenosine triphosphate–sensitive potassium channel to pinacidil [An et al.], 575
desflurane-induced preconditioning alters calcium-induced mitochondrial permeability transition [Piriou et al.], 581
determinants of sensitivity of AMPA receptors to xenon (LI) [Plested et al.], 347
dexmedetomidine enhances analgesic action of nitrous oxide (LI) [Dawson et al.], 894
does use of electroencephalographic Bispectral Index or auditory evoked potential index monitoring facilitate recovery after desflurane anesthesia in ambulatory setting? (CI) [White et al.], 811
dual exposure to sevoflurane improves anesthetic preconditioning in intact hearts [Riess et al.], 569

effects of isoflurane *versus* fentanyl–nitrous oxide anesthesia on long-term outcome from severe forebrain ischemia in rat (LI) [Elsersy et al.], 1160
effects of two target-controlled concentrations (1 and 3 ng/ml) of remifentanil on MAC_{BAR} of sevoflurane (CI) [Albertin et al.], 255
electroencephalographic bicoherence is sensitive to noxious stimuli during isoflurane or sevoflurane anesthesia (CI) [Hagihira et al.], 818
halothane and isoflurane augment depolarization-induced cytosolic Ca^{2+} transients and attenuate carbachol-stimulated Ca^{2+} transients [Xu et al.] (2003;92:1746), 1337 (erratum)
hemorrhage during isoflurane–nitrous oxide anesthesia (LI) [Höhne et al.], 885
isoflurane and sevoflurane precondition against neutrophil-induced contractile dysfunction in isolated rat hearts [Hu et al.], 489
isoflurane differentially modulates medullary ON and OFF neurons while suppressing hind-limb motor withdrawals (LI) [Jinks et al.], 1224
isoflurane inhibits transmitter release and the presynaptic action potential (LI) [Wu et al.], 663
isoflurane produces delayed preconditioning against myocardial ischemia and reperfusion injury: role of cyclooxygenase-2 [Tanaka et al.], 525
long-term impairment of acquisition of a spatial memory task following isoflurane–nitrous oxide anesthesia in rats (LI) [Culley et al.], 309
mechanisms of cardioprotection by volatile anesthetics (RA) [Tanaka et al.], 707
monitoring of immobility to noxious stimulation during sevoflurane anesthesia using spinal H-reflex (CI) [Rehberg et al.], 44
myocardial effects of halothane and sevoflurane in diabetic rats (LI) [David et al.], 1179
protein kinase C translocation and Src protein tyrosine kinase activation mediate isoflurane-induced preconditioning *in vivo* [Ludwig et al.], 532
reactive oxygen species precede protein kinase C-δ activation independent of adenosine triphosphate–sensitive mitochondrial channel opening in sevoflurane-induced cardioprotection [Bouwman et al.], 506
role of tyrosine kinase in desflurane-induced preconditioning [Ebel et al.], 555
sevoflurane inhibits angiotensin II–induced, protein kinase C–mediated but not Ca^{2+}-elicited contraction of rat aortic smooth muscle (LI) [Yu et al.], 879
sevoflurane or desflurane anesthesia plus postoperative propofol sedation attenuates myocardial injury after coronary surgery in elderly high-risk patients (CO) [Xia et al.], 1038

Inotropic agents
effects of dopamine, dobutamine, and dopexamine on microcirculatory blood flow in gastrointestinal tract during sepsis and anesthesia (LI) [Hiltebrand et al.], 1188

Insulin
acute hyperinsulinemia restrains endotoxin-induced systemic inflammatory response by (LI) [Brix-Christensen et al.], 861

Interdental distance
direct laryngoscopy and (CO) [Lee], 1623

Interleukin 6
acute hyperinsulinemia restrains endotoxin-induced systemic inflammatory response by (LI) [Brix-Christensen et al.], 861

Intraabdominal pressure
moderate increase in intraabdominal pressure attenuates gastric mucosal oxygen saturation in patients undergoing laparoscopy (CI) [Schwarte et al.], 1081

Intracranial pressure
a 4.42% reduction in cross-sectional area of a jugular vein cannot result in doubling of intracranial pressure (CO) [Khorasani et al.], 1625
epidural granuloma and intracranial hypotension resulting from cervical epidural steroid injection (CR) [Dietrich et al.], 445
patient positioning and ultrasound guidance are important in bilateral cannulation of internal jugular veins (CO) [Schummer et al.], 1624

Intrathecal anesthesia. *See* **Spinal anesthesia and analgesia**

Intravenous anesthesia and anesthetics
children undergoing repeated exposures for radiation therapy do not develop tolerance to propofol (CI) [Keidan et al.], 251
comparison of a lower-lipid propofol emulsion with standard emulsion for sedation during monitored anesthesia care (CI) [Song et al.], 1072
determination of pharmacodynamic interaction of propofol and remifentanil during esophagogastroduodenoscopy in children (CI) [Drover et al.], 1382
dose-dependent effects of propofol on central processing of thermal pain (PRA) [Hofbauer et al.], 386
effect of propofol on hypotonic swelling-induced membrane depolarization in human coronary artery smooth muscle cells (LI) [Masuda et al.], 648
effects of imposed acid–base derangement on cardiovascular effects and pharmacokinetics of bupivacaine and thiopental (LI) [Mather et al.], 1457
influence of fluid infusion associated with high-volume blood loss on plasma propofol concentrations (LI) [Kurita et al.], 871
labor analgesia and cesarean delivery (PRA) [Sharma et al.], 142
mixed-effects modeling of the influence of alfentanil on propofol pharmacokinetics (CI) [Mertens et al.], 795
mixed-effects modeling of the intrinsic ventilatory depressant potency of propofol in the non–steady state (CI) [Bouillon et al.], 240
molecular mechanisms of the inhibitory effects of propofol and thiamylal on sarcolemmal adenosine triphosphate–sensitive potassium channels (LI) [Kawano et al.], 338
pharmacodynamic interaction between propofol and remifentanil regarding hypnosis, tolerance of laryngoscopy, Bispectral Index, and electroencephalographic approximate entropy (CI) [Bouillon et al.], 1353
pharmacokinetic–pharmacodynamic modeling of morphine-6-glucuronide–induced analgesia in healthy volunteers (PRA) [Romberg et al.], 120
propofol modulates γ-aminobutyric acid–mediated inhibitory neurotransmission to cardiac vagal neurons in nucleus ambiguus (LI) [Wang et al.], 1198
propofol neuroprotection in cerebral ischemia and its effects on low-molecular-weight antioxidants and skilled motor tasks (LI) [Bayona et al.], 1151
recovery from sleep deprivation occurs during propofol anesthesia (LI) [Tung et al.], 1419
role of lipid in sulfite-dependent propofol dimerization (LI) [Baker et al.], 1235
sequential effects of increasing propofol sedation on frontal and temporal cortices as indexed by auditory event-related potentials (CI) [Heinke et al.], 617

Intubation. *See also* **Airway management**
bifurcated tracheal tube for a neonate with tracheoesophageal fistula (CR) [Miyamoto et al.], 733
corticosteroids and inhaled salbutamol in patients with reversible airway obstruction markedly decrease the incidence of bronchospasm after tracheal intubation (CI) [Silvanus et al.], 1052
do we need a low dose of succinylcholine to facilitate intubation in teaching hospitals? (CO) [Lu et al.], 1626
dysphagia, obstructive sleep apnea, and difficult fiberoptic intubation secondary to diffuse idiopathic skeletal hyperostosis (CR) [Naik et al.], 1311
effects of the α_2-adrenoceptor agonist dexmedetomidine on bronchoconstriction in dogs (LI) [Groeben et al.], 359
endotracheal tubes coated with antiseptics decrease bacterial colonization of ventilator circuits, lungs, and endotracheal tube (LI) [Berra et al.], 1446
interdental distance and direct laryngoscopy (CO) [Lee], 1623
long-term effects of different humidification systems on endotracheal tube patency (CI) [Jaber et al.], 782
modified protective suits for anesthesiologists performing tracheal intubation for severe acute respiratory syndrome patients in Taiwan (CO) [Chang et al.], 1630
mouth opening, craniocervical extension, and laryngoscopic positioning (CO) [Mashour], 1623
optimal intubating dose of succinylcholine (CO) [Kron], 1628

should the intubating dose of succinylcholine be revisited? (CO) [Tabboush], 1627
unanticipated difficult airway in anesthetized patients (CI) [Combes et al.], 1146
unanticipated difficult intubation due to significant change in mobility at neck and jaw on assuming supine position (CO) [Rajan], 1632
what is the correct dose of succinylcholine? (CO) [Messent et al.], 1627

Ions and ion channels
adenosine and a nitric oxide donor enhances cardioprotection by preconditioning with isoflurane through mitochondrial adenosine triphosphate–sensitive K^+ channel–dependent and –independent mechanisms [Wakeno-Takahashi et al.], 515
base excess and strong ion difference: clinical limitations related to inaccuracy (CO) [Zander et al.], 459
contribution of reactive oxygen species to isoflurane-induced sensitization of cardiac sarcolemmal adenosine triphosphate–sensitive potassium channel to pinacidil [An et al.], 575
molecular mechanisms of the inhibitory effects of propofol and thiamylal on sarcolemmal adenosine triphosphate–sensitive potassium channels (LI) [Kawano et al.], 338

Ischemia
anesthetic preconditioning *versus* anesthetic treatment: effects on ischemic injury in isolated hearts (CO) [Ansley et al.], 1327
continuous, noninvasive, and localized microvascular tissue oximetry using visible light spectroscopy (LI) [Benaron et al.], 1469
differential activation of mitogen-activated protein kinases in ischemic and anesthetic preconditioning (LI) [da Silva et al.], 59
effect of morphine on small bowel propulsion after intestinal ischemia (LR) [Matot et al.], 450
effects of isoflurane *versus* fentanyl–nitrous oxide anesthesia on long-term outcome from severe forebrain ischemia in rat (LI) [Elsersy et al.], 1160
hypothermic preconditioning increases survival of Purkinje neurons in rat cerebellar slices after an *in vitro* simulated ischemia (LI) [Yuan et al.], 331
morphine preconditions Purkinje cells against cell death under *in vitro* simulated ischemia–reperfusion conditions [Lim et al.], 562
myocardial (*See* **Coronary circulation and myocardial ischemia**)
propofol neuroprotection in cerebral ischemia and its effects on low-molecular-weight antioxidants and skilled motor tasks (LI) [Bayona et al.], 1151

Isoflurane
adenosine and a nitric oxide donor enhances cardioprotection by preconditioning with isoflurane through mitochondrial adenosine triphosphate–sensitive K^+ channel–dependent and –independent mechanisms [Wakeno-Takahashi et al.], 515
contribution of reactive oxygen species to isoflurane-induced sensitization of cardiac sarcolemmal adenosine triphosphate–sensitive potassium channel to pinacidil [An et al.], 575
effects of isoflurane *versus* fentanyl–nitrous oxide anesthesia on long-term outcome from severe forebrain ischemia in rat (LI) [Elsersy et al.], 1160
electroencephalographic bicoherence is sensitive to noxious stimuli during isoflurane or sevoflurane anesthesia (CI) [Hagihira et al.], 818
halothane and isoflurape augment depolarization-induced cytosolic Ca^{2+} transients and attenuate carbachol-stimulated Ca^{2+} transients [Xu et al.] (2003;92:1746), 1337 (erratum)
hemorrhage during isoflurane–nitrous oxide anesthesia (LI) [Höhne et al.], 885
isoflurane and sevoflurane precondition against neutrophil-induced contractile dysfunction in isolated rat hearts [Hu et al.], 489
isoflurane differentially modulates medullary ON and OFF neurons while suppressing hind-limb motor withdrawals (LI) [Jinks et al.], 1224
isoflurane inhibits transmitter release and the presynaptic action potential (LI) [Wu et al.], 663
isoflurane produces delayed preconditioning against myocardial ischemia and reperfusion injury: role of cyclooxygenase-2 [Tanaka et al.], 525
long-term impairment of acquisition of a spatial memory task following isoflurane–nitrous oxide anesthesia in rats (LI) [Culley et al.], 309
protein kinase C translocation and Src protein tyrosine kinase activation mediate isoflurane-induced preconditioning *in vitro* [Ludwig et al.], 532

J

Jugular vein
a 4.42% reduction in cross-sectional area of a jugular vein cannot result in doubling of intracranial pressure (CO) [Khorasani et al.], 1625
patient positioning and ultrasound guidance are important in bilateral cannulation of internal jugular veins (CO) [Schummer et al.], 1624

K

Ketamine
chronobiology and anesthesia (RA) [Chassard et al.], 413
combination of morphine with ketamine for patient-controlled analgesia (CO) [Van Elstraete et al.], 197
effects of anesthesia and recovery from ketamine racemate and enantiomers on regional cerebral glucose metabolism in rats (LI) [Freo et al.], 1172
effects of subanesthetic ketamine on regional cerebral glucose metabolism in humans (CI) [Långsjö et al.], 1065
investigation to dissociate the analgesia and anesthetic properties of ketamine using functional magnetic resonance imaging (CI) [Rogers et al.], 292
single amino acid residue in extracellular portion of transmembrane segment 2 in nicotinic $\alpha 7$ acetylcholine receptor modulates sensitivity to ketamine (LI) [Ho et al.], 657

L

Labor and delivery. *See also* **Obstetric patients**
background infusion is not beneficial during labor patient-controlled analgesia with 0.1% ropivacaine plus 0.5 μg/ml sufentanil (PRA) [Boselli et al.], 968
ED_{50} and ED_{95} of intrathecal hyperbaric bupivacaine coadministerd with opioids for cesarean delivery (PRA) [Ginosar et al.], 676
epidural neostigmine produces analgesia but also sedation in women after cesarean delivery (PRA) [Kaya et al.], 381
labor analgesia and cesarean delivery (PRA) [Sharma et al.], 142
peripartum substitution of inhaled for intravenous prostacyclin in a patient with primary pulmonary hypertension (CR) [Hill et al.], 1603
successful pregnancy and cesarean delivery 22 years after separation in an ischiopagus tetrapus conjoined twin (CR) [Rosemeier et al.], 1601

Laparoscopy
moderate increase in intraabdominal pressure attenuates gastric mucosal oxygen saturation in patients undergoing laparoscopy (CI) [Schwarte et al.], 1081

Laryngeal Mask Airway™
alternative formula for size selection (CO) [Hirai et al.], 460
antichemical protective gear prolongs time to successful airway management (CI) [Flaishon et al.], 260
gum elastic bougie–guided insertion of the *ProSeal*™ Laryngeal Mask Airway is superior to the digital and introducer tool techniques (CI) [Brimacombe et al.], 25
insertion by anesthetists and nonanesthetists wearing unconventional protective gear (CI) [Flaishon et al.], 267
unanticipated difficult airway in anesthetized patients (CI) [Combes et al.], 1146
unusual cause of airway obstruction during general anesthesia with a Laryngeal Mask Airway (CR) [Bernards], 1017

Laryngoscopy

development of osteomyelitis after direct laryngoscopy (CR) [Tucke et al.], 1021
historical perspective on use of the laryngoscope as a tool in anesthesiology (SA) [Burkle et al.], 1003
interdental distance and direct laryngoscopy (CO) [Lee], 1623
mandibular advancement improves laryngeal view during direct laryngoscopy performed by inexperienced physicians (CI) [Tamura et al.], 598
mouth opening, craniocervical extension, and laryngoscopic positioning (CO) [Mashour], 1623
pharmacodynamic interaction between propofol and remifentanil regarding hypnosis, tolerance of laryngoscopy, Bispectral Index, and electroencephalographic approximate entropy (CI) [Bouillon et al.], 1353

Legal issues
chronic pain management: American Society of Anesthesiologists Closed Claims Project (PRA) [Fitzgibbon et al.], 98
injuries and liabilities related to central vascular catheters (CI) [Domino et al.], 1411

Leukocytes
effects of ϵ-aminocaproic acid and aprotinin on leukocyte–platelet adhesion in patients undergoing cardiac surgery (CI) [Greilich et al.], 225

Levobupivacaine
can ropivacaine and levobupivacaine be used as test doses during regional anesthesia? (PRA) [Owen et al.], 922
paravertebral analgesia with levobupivacaine increases postoperative flap tissue oxygen tension after immediate latissimus dorsi breast reconstruction compared with intravenous opioid analgesia (PRA) [Buggy et al.], 375

Lidocaine
lidocaine inhibits tyrosine kinase activity of epidermal growth factor receptor and suppresses proliferation of corneal epithelial cells (LI) [Hirata et al.], 1206

Lipids
comparison of a lower-lipid propofol emulsion with standard emulsion for sedation during monitored anesthesia care (CI) [Song et al.], 1072
role of lipid in sulfite-dependent propofol dimerization (LI) [Baker et al.], 1235

Liver function and disease
acute cardiovascular instability during percutaneous ethanol injection of hepatocellular carcinoma under general anesthesia (CR) [Naik et al.], 1307

Liver transplantation
anesthesia management of orthotopic liver transplantation in a patient with Mustard repair of transposition of great arteries and superior vena caval obstruction (CR) [Boucek et al.], 183 (erratum, 468)

Local anesthesia and anesthetics. *See also* **Regional anesthesia and analgesia**
background infusion is not beneficial during labor patient-controlled analgesia with 0.1% ropivacaine plus 0.5 μg/ml sufentanil (PRA) [Boselli et al.], 968
chronobiology and anesthesia (RA) [Chassard et al.], 413
coca leaf and local anesthesia (CO) [Dagnino], 1322
effects of imposed acid–base derangement on cardiovascular effects and pharmacokinetics of bupivacaine and thiopental (LI) [Mather et al.], 1457
epidural ropivacaine *vs.* epidural morphine and the catabolic response to colonic surgery (PRA) [Schricker et al.], 973
influence of lumbosacral cerebrospinal fluid density, velocity, and volume on extent and duration of plain bupivacaine spinal anesthesia (PRA) [Higuchi et al.], 106
infraclavicular perineural local anesthetic infusion (PRA) [Ilfeld et al.], 395
lidocaine inhibits tyrosine kinase activity of epidermal growth factor receptor and suppresses proliferation of corneal epithelial cells (LI) [Hirata et al.], 1206
local anesthetic infusion pump systems adverse events reported to Food and Drug Administration (CR) [Brown et al.], 1305
meperidine suppresses the excitability of spinal dorsal horn neurons (PRA) [Wolff et al.], 947
Morena y Maäiz: missed rendezvous with local anesthesia (CO) [Marret et al.], 1321
paravertebral analgesia with levobupivacaine increases postoperative flap tissue oxygen tension after immediate latissimus dorsi breast reconstruction compared with intravenous opioid analgesia (PRA) [Buggy et al.], 375
possible mechanism of irreversible nerve injury caused by local anesthetics (PRA) [Kitagawa et al.], 962
sodium bisulfite: scapegoat for chloroprocain neurotoxicity? (LI) [Taniguchi et al.], 85
time-dependent inhibition of G protein–coupled receptor signaling by local anesthetics (LI) [Hollmann et al.], 852
transient cardiovascular toxicity with unintentional intravascular injection of 3% 2-chloroprocaine in a 2-month-old infant (CR) [Cladis et al.], 181

Lumbar puncture
diplopia: complication of dural puncture (RA) [Nishio et al.], 158

Lung auscultation
comparative diagnostic performances of auscultation, chest radiography, and lung ultrasonography in acute respiratory distress syndrome (CI) [Lichtenstein et al.], 9
the times they are a-changin': should we hang up the stethoscope? (EV) [Hubmayr], 1

Lung function and disease
cardiopulmonary effects of GW280430A in dogs (LI) [Heerdt et al.], 846
combined infraclavicular plexus block with suprascapular nerve block for humeral head surgery in a patient with respiratory failure (CO) [Blumenthal et al.], 190
comparative diagnostic performances of auscultation, chest radiography, and lung ultrasonography in acute respiratory distress syndrome (CI) [Lichtenstein et al.], 9
corticosteroids and inhaled salbutamol in patients with reversible airway obstruction markedly decrease the incidence of bronchospasm after tracheal intubation (CI) [Silvanus et al.], 1052
early onset pneumonia: risk factors and consequences in head trauma patients (CI) [Bronchard et al.], 190234
endotracheal tubes coated with antiseptics decrease bacterial colonization of ventilator circuits, lungs, and endotracheal tube (LI) [Berra et al.], 1446
high-frequency oscillatory ventilation (CCC) [Bouchut et al.], 1007
Infection control measures for operative procedures in severe acute respiratory syndrome–related patients (CI) [Chee et al.], 1394
mechanism by which a sustained inflation can worsen oxygenation in acute lung injury (LI) [Musch et al.], 323 (erratum, 1336)
noninvasive positive pressure ventilation using a helmet in patients with acute exacerbation of chronic obstructive pulmonary disease (CI) [Antonelli et al.], 16
outbreak of severe acute respiratory syndrome n Singapore and modifications in anesthesia service (CO) [Liu et al.], 1629
perioperative cardiorespiratory complications in adults with (CI) [Béchard et al.], 826
peripartum substitution of inhaled for intravenous prostacyclin in a patient with primary pulmonary hypertension (CR) [Hill et al.], 1603
rebound pulmonary hypertension and cardiogenic shock after withdrawal of inhaled prostacyclin (CR) [Augoustides et al.], 1023
the times they are a-changin': should we hang up the stethoscope? (EV) [Hubmayr], 1
variable ventilation improves perioperative lung function in patients undergoing abdominal aortic aneurysmectomy (CI) [Boker et al.], 608

M

Magnetic resonance imaging
deviation of cauda equina by changing position (CO) [Takiguchi et al.], 754
dissociable brain activation responses to 5-Hz electrical pain stimulation (PRA) [Alkire et al.], 939
epidural granuloma and intracranial hypotension resulting from cervical epidural steroid injection (CR) [Dietrich et al.], 445
investigation to dissociate the analgesia and anesthetic properties of

ketamine using functional magnetic resonance imaging (CI) [Rogers et al.], 292
near-miss accident during magnetic resonance imaging by a "flying sevoflurane vaporizer" due to ferromagnetism undetectable by handheld magnet (CO) [Zimmer et al.], 1329

Malignant hyperthermia
genetic testing in North America for (EV) [Nelson et al.], 212
histomorphologic examination of skeletal muscle preparations does not differentiate between malignant hyperthermia–susceptible and –normal patients (CI) [von Breunig et al.], 789
Malignant Hyperthermia Genetic Testing in North American Working Group Meeting (RSM) [Sei et al.], 464
molecular genetic testing for susceptibility to (CI) [Girard et al.], 1076
spontaneous occurrence of the disposition to (CR) [Rueffert et al.], 731

Mechanical ventilation
high-frequency oscillatory ventilation (CCC) [Bouchut et al.], 1007
long-term effects of different humidification systems on endotracheal tube patency (CI) [Jaber et al.], 782
mechanism by which a sustained inflation can worsen oxygenation in acute lung injury (LI) [Musch et al.], 323 (erratum, 1336)
variable ventilation improves perioperative lung function in patients undergoing abdominal aortic aneurysmectomy (CI) [Boker et al.], 608

Mechanomyography
can acceleromyography detect low levels of residual paralysis? (CI) [Capron et al.], 1119

Mediastinal mass
perioperative cardiorespiratory complications in adults with (CI) [Béchard et al.], 826

Meeting reports
Malignant Hyperthermia Genetic Testing in North American Working Group Meeting (RSM) [Sei et al.], 464
Society of Neurosurgical Anesthesia and Critical Care Annual Meeting, 2003 (RSM) [Fahy], 1334

Memory
drugs and human memory (part 1) (RA) [Ghoneim], 987
drugs and human memory (part 2) (RA) [Ghoneim], 1277
electroencephalographic monitoring should not provide risks of intraoperative memory because of aspired faster emergence and reduction of drug consumptions (CO) [Bischoff et al.], 1037

Meperidine
excitability of spinal dorsal horn neurons suppressed by (PRA) [Wolff et al.], 947
labor analgesia and cesarean delivery (PRA) [Sharma et al.], 142

Methemoglobinemia
after a blast injury (CR) [Yazbeck-Karam et al.], 448

Methylergonovine maleate
myocardial ischemia induced by intramyometrial injection of methylergonovine maleate (CO) [Kuczkowski], 1043

Methylprednisolone
effect on neuropathic pain and spinal glial activation in rats (PRA) [Takeda et al.], 1249

Midazolam
low Bispectral Index values in awake volunteers receiving a combination of propofol and midazolam (CR) [Vuyk et al.], 179

Mitochondria
adenosine and a nitric oxide donor enhances cardioprotection by preconditioning with isoflurane through mitochondrial adenosine triphosphate–sensitive K^+ channel–dependent and –independent mechanisms [Wakeno-Takahashi et al.], 515
attenuation of mitochondrial respiration by sevoflurane in isolated cardiac mitochondria is mediated in part by reactive oxygen species [Riess et al.], 498
desflurane-induced preconditioning alters calcium-induced mitochondrial permeability transition [Piriou et al.], 581
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antiallodynic effects of systemic and intrathecal morphine in the spared nerve injury model of neuropathic pain in rats (PRA) [Zhao et al.], 905
attenuation of mitochondrial respiration by sevoflurane in isolated cardiac mitochondria is mediated in part by reactive oxygen species [Riess et al.], 498
cardiopulmonary effects of GW280430A in dogs (LI) [Heerdt et al.], 846
continuous, noninvasive, and localized microvascular tissue oximetry using visible light spectroscopy (LI) [Benaron et al.], 1469
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desflurane-induced preconditioning alters calcium-induced mitochondrial permeability transition [Piriou et al.], 581
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dexmedetomidine enhances analgesic action of nitrous oxide (LI) [Dawson et al.], 894
differential activation of mitogen-activated protein kinases in ischemic and anesthetic preconditioning (LI) [da Silva et al.], 59
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experimental pain models reveal no sex differences in pentazocine analgesia in humans (PRA) [Fillingim et al.], 1263
hemorrhage during isoflurane–nitrous oxide anesthesia (LI) [Höhne et al.], 885
hyperoxic ventilation reduces 6-hour mortality at the critical hemoglobin concentration (LI) [Meier et al.], 70 (erratum, 1337)
hypothermic preconditioning increases survival of Purkinje neurons in rat cerebellar slices after an *in vitro* simulated ischemia (LI) [Yuan et al.], 331

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low doses of fentanyl block central sensitization in rat spinal cord *in vivo* (PRA) [Benrath et al.], 1545
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mechanism by which a sustained inflation can worsen oxygenation in acute lung injury (LI) [Musch et al.], 323 (erratum, 1336)
meperidine suppresses the excitability of spinal dorsal horn neurons (PRA) [Wolff et al.], 947
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mobilization of opioid-containing polymorphonuclear cells by hematopoietic growth factors and influence on inflammatory pain (PRA) [Brack et al.], 149
morphine preconditions Purkinje cells against cell death under *in vitro* simulated ischemia–reperfusion conditions [Lim et al.], 562
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nerve injury induces tonic bilateral μ-opioid receptor–mediated inhibitory effect on mechanical allodynia in mice (PRA) [Mansikka et al.], 912
nuclear factor κB and anesthetic preconditioning during myocardial ischemia–reperfusion [Zhong et al.], 540
peripheral nerve injury sensitizes response to visceral distension but not its inhibition by milnacipran (PRA) [Shin et al.], 671
pharmacokinetic–pharmacodynamic modeling of morphine-6-glucuronide–induced analgesia in healthy volunteers (PRA) [Romberg et al.], 120
pharmacokinetics of intrathecal oligodeoxynucleotides (LI) [Krupp et al.], 315
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reactive oxygen species precede protein kinase C-δ activation independent of adenosine triphosphate–sensitive mitochondrial channel opening in sevoflurane-induced cardioprotection [Bouwman et al.], 506
recombinant human hemoglobin with reduced nitric oxide–scavenging capacity restores effectively pancreatic microcirculatory disorders in hemorrhagic shock (LI) [von Dobschuetz et al.], 1484
reduced efficacy of volatile anesthetic preconditioning with advanced age in isolated rat myocardium [Sniecinski et al.], 589
remifentanil directly activates human *N*-methyl-D-aspartate receptors expressed in *Xenopus laevis* oocytes (PRA) [Hahnenkamp et al.], 1531
repeated dosing with oral allosteric modulator of adenosine A1 receptor produces tolerance in rats with neuropathic pain (PRA) [Li et al.], 956
role of lipid in sulfite-dependent propofol dimerization (LI) [Baker et al.], 1235
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sevoflurane inhibits angiotensin II–induced, protein kinase C–mediated but not Ca^{2+}-elicited contraction of rat aortic smooth muscle (LI) [Yu et al.], 879
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sodium bisulfite: scapegoat for chloroprocain neurotoxicity? (LI) [Taniguchi et al.], 85
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synergistic antinociceptive effect of amitriptyline and morphine in rat orofacial formalin test (PRA) [Luccarini et al.], 690
trigger-dependent gene expression profiles in cardiac preconditioning [Sergeev et al.], 474
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discharge criteria for children sedated by nonanesthesiologists (EV) [Coté], 207
does use of electroencephalographic Bispectral Index or auditory evoked potential index monitoring facilitate recovery after desflurane anesthesia in ambulatory setting? (CI) [White et al.], 811
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antiallodynic effects of systemic and intrathecal morphine in the spared nerve injury model of neuropathic pain in rats (PRA) [Zhao et al.], 905
birth of opioid anesthesia (CPR) [Lowenstein], 1013
combination of morphine with ketamine for patient-controlled analgesia (CO) [Van Elstraete et al.], 197
effect on small bowel propulsion after intestinal ischemia (LR) [Matot et al.], 450
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morphine consumption in patients after radical prostatectomy (PRA) [Snijdelaar et al.], 134
epidural ropivacaine *vs.* epidural morphine and the catabolic response to colonic surgery (PRA) [Schricker et al.], 973
increased margin of safety of morphine-6-glucuronide relative to morphine (CO) [Romberg et al.], 1622
morphine preconditions Purkinje cells against cell death under *in vitro* simulated ischemia–reperfusion conditions [Lim et al.], 562
pharmacokinetic–pharmacodynamic modeling of morphine-6-glucuronide–induced analgesia in healthy volunteers (PRA) [Romberg et al.], 120
recurrent hypoxemia in young children with obstructive sleep apnea is associated with reduced opioid requirement for analgesia (CI) [Brown et al.], 806
synergistic antinociceptive effect of amitriptyline and morphine in rat orofacial formalin test (PRA) [Luccarini et al.], 690

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Neonates
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glucose and heart surgery: neonates are not just small adults (EV) [Loepke et al.], 1339
high-frequency oscillatory ventilation (CCC) [Bouchut et al.], 1007
intraoperative hyperglycemia during infant cardiac surgery is not associated with adverse neurodevelopmental outcomes at 1, 4, and 8 years (CI) [de Ferranti et al.], 1345
neonatal effects of long-term maternal phenoxybenzamine therapy (CR) [Aplin et al.], 1608

Neostigmine
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Nerve blocks
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economics of nerve block pain management after anterior cruciate ligament reconstruction (EC) [Williams et al.], 697
neuropathy following axillary brachial plexus block: is it the tourniquet? (2003;99:1230), 468
phase Ia and Ib study of amitriptyline for ulnar nerve block in humans (PRA) [Fridrich et al.], 1511
ultrasound-guided lumbar facet nerve block (PRA) [Greher et al.], 1242

Nerve conduction studies
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Nerve injury
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nerve injury induces tonic bilateral μ-opioid receptor–mediated inhibitory effect on mechanical allodynia in mice (PRA) [Mansikka et al.], 912
neuropathy following axillary brachial plexus block: is it the tourniquet? (2003;99:1230), 468
one thing leads to another (EV) [Ness], 472
peripheral nerve injury sensitizes response to visceral distension but not its inhibition by milnacipran (PRA) [Shin et al.], 671
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Neuromuscular transmission and blockade
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succinylcholine and the open globe: questions unanswered (CO) [Chidiac], 1035
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no magic bullets: the ephemeral nature of anesthetic-mediated neuroprotection (EV) [Patel], 1049
propofol neuroprotection in cerebral ischemia and its effects on low-molecular-weight antioxidants and skilled motor tasks (LI) [Bayona et al.], 1151

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Nitric oxide
adenosine and a nitric oxide donor enhances cardioprotection by preconditioning with isoflurane through mitochondrial adenosine triphosphate–sensitive K^+ channel–dependent and –independent mechanisms [Wakeno-Takahashi et al.], 515
interaction of spinal nitric oxide and prostaglandins after L5–L6 spinal nerve ligation in rat (LR) [Hefferan et al.], 1611
recombinant human hemoglobin with reduced nitric oxide–scavenging capacity restores effectively pancreatic microcirculatory disorders in hemorrhagic shock (LI) [von Dobschuetz et al.], 1484

Nitrous oxide
dexmedetomidine enhances analgesic action of nitrous oxide (LI) [Dawson et al.], 894
effects of isoflurane *versus* fentanyl–nitrous oxide anesthesia on long-term outcome from severe forebrain ischemia in rat (LI) [Elsersy et al.], 1160
hemorrhage during isoflurane–nitrous oxide anesthesia (LI) [Höhne et al.], 885
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Nuclear factor κB
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Obstetric patients
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epidural neostigmine produces analgesia but also sedation in women after cesarean delivery (PRA) [Kaya et al.], 381
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Obstructive sleep apnea
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Ocular anesthesia. *See* **Eye surgery**
Opioids
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background infusion is not beneficial during labor patient-controlled analgesia with 0.1% ropivacaine plus 0.5 μg/ml sufentanil (PRA) [Boselli et al.], 968
birth of opioid anesthesia (CPR) [Lowenstein], 1013
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developmental regulation of codeine analgesia in rat (PRA) [Williams et al.], 92
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ED_{50} and ED_{95} of intrathecal hyperbaric bupivacaine coadministerd with opioids for cesarean delivery (PRA) [Ginosar et al.], 676
effect of morphine on small bowel propulsion after intestinal ischemia (LR) [Matot et al.], 450
effects of isoflurane *versus* fentanyl–nitrous oxide anesthesia on long-term outcome from severe forebrain ischemia in rat (LI) [Elsersy et al.], 1160
effects of perioperative oral amantadine on postoperative pain and morphine consumption in patients after radical prostatectomy (PRA) [Snijdelaar et al.], 134
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epidural ropivacaine *vs.* epidural morphine and the catabolic response to colonic surgery (PRA) [Schricker et al.], 973
experimental pain models reveal no sex differences in pentazocine analgesia in humans (PRA) [Fillingim et al.], 1263
increased margin of safety of morphine-6-glucuronide relative to morphine (CO) [Romberg et al.], 1622
intrathecal opioids and lower urinary tract function (PRA) [Kuipers et al.], 1497
labor analgesia and cesarean delivery (PRA) [Sharma et al.], 142
meperidine suppresses the excitability of spinal dorsal horn neurons (PRA) [Wolff et al.], 947
mixed-effects modeling of the influence of alfentanil on propofol pharmacokinetics (CI) [Mertens et al.], 795
mobilization of opioid-containing polymorphonuclear cells by hematopoietic growth factors and influence on inflammatory pain (PRA) [Brack et al.], 149
morphine preconditions Purkinje cells against cell death under *in vitro* simulated ischemia–reperfusion conditions [Lim et al.], 562
nerve injury induces tonic bilateral μ-opioid receptor–mediated inhibitory effect on mechanical allodynia in mice (PRA) [Mansikka et al.], 912
opioid–hypnotic synergy (CI) [Kern et al.], 1373
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pharmacokinetic–pharmacodynamic modeling of morphine-6-glucuronide–induced analgesia in healthy volunteers (PRA) [Romberg et al.], 120
recurrent hypoxemia in young children with obstructive sleep apnea is associated with reduced opioid requirement for analgesia (CI) [Brown et al.], 806
remifentanil directly activates human *N*-methyl-D-aspartate receptors expressed in *Xenopus laevis* oocytes (PRA) [Hahnenkamp et al.], 1531
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synergistic antinociceptive effect of amitriptyline and morphine in rat orofacial formalin test (PRA) [Luccarini et al.], 690
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Osteomyelitis
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Oxygen. *See also* **Reactive oxygen species**
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moderate increase in intraabdominal pressure attenuates gastric mucosal oxygen saturation in patients undergoing laparoscopy (CI) [Schwarte et al.], 1081
obesity decreases perioperative tissue oxygenation (CI) [Kabon et al.], 274
paravertebral analgesia with levobupivacaine increases postoperative flap tissue oxygen tension after immediate latissimus dorsi breast reconstruction compared with intravenous opioid analgesia (PRA) [Buggy et al.], 375

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Pain, neuropathic
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effect of methylprednisolone on neuropathic pain and spinal glial activation in rats (PRA) [Takeda et al.], 1249
repeated dosing with oral allosteric modulator of adenosine A1 receptor produces tolerance in rats with neuropathic pain (PRA) [Li et al.], 956
Pain, postoperative
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Schechter, Berde, Yaster (eds), *Pain in Infants, Children, and Adolescents, 2nd edition* (EM) [Mauck], 758
Smith, *Drugs for Pain* (EM) [Abram], 1633
Waldman, *Atlas of Common Pain Syndromes* (EM) [Thakur et al.], 1332
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mobilization of opioid-containing polymorphonuclear cells by hematopoietic growth factors and influence on inflammatory pain (PRA) [Brack et al.], 149
peripheral nerve injury sensitizes response to visceral distension but not its inhibition by milnacipran (PRA) [Shin et al.], 671
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spinal adenosine receptor activation reduces hypersensitivity after surgery by a different mechanism than after nerve injury (PRA) [Obata et al.], 1258
xenon exerts age-independent antinociception in Fischer rats (LR) [Ma et al.], 1313
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antiallodynic effects of systemic and intrathecal morphine in the spared nerve injury model of neuropathic pain in rats (PRA) [Zhao et al.], 905
developmental regulation of codeine analgesia in rat (PRA) [Williams et al.], 92
dexmedetomidine enhances analgesic action of nitrous oxide (LI) [Dawson et al.], 894
did experimental bias conceal the efficacy of spinal opioids in previous studies with the spinal nerve ligation model of neuropathic pain? (EV) [Eisenach et al.], 765
dissociable brain activation responses to 5-Hz electrical pain stimulation (PRA) [Aikire et al.], 939
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